AMENDMENTS TO THE SPECIFICATION:

Please replace the paragraph beginning at page 1, line 16, with the following amended paragraph:

The invention relates to a method of non-destructively ~~determining~~ testing a component after ~~the~~ exposure in a high temperature environment ~~according to the independent claim~~.

Please replace the paragraph beginning at page 2, line 30, with the following amended paragraph:

To determine the condition of serviced gas turbine blading components many components need to be metallurgically investigated because ~~the~~ of the main question of coating degradation. Non-destructive Testing (NDT) methods can provide essential information, such as residual coating lifetime, coating thickness distribution and presence and size of any kind of delamination defects. Therefore, NDT methods lower the need of time and cost consuming destructive metallurgical investigations. Within the family of the NDT methods, advanced multifrequency eddy current techniques can be used to quantitatively grade the expended life of service exposed MCrAlY coatings having γ/β microstructure. This technique exploits the correlation between the coating chemical composition, which changes in operation due to the loss of protective elements, and the electromagnetic properties of the coating, i.e. electrical conductivity and magnetic permeability, which are estimated by the eddy current technique. However, unlike for γ/β coatings, the applicability of NDT eddy current methods for estimating the expended life of service exposed γ/γ' coatings is not straightforward due to the variability of the γ/γ' microstructure and

strong dependence of the γ/γ '-coating electrical conductivity on the service temperature.

Please replace the paragraph beginning at page 3, line 16, with the following amended paragraph:

During an engine stop from the operating temperature down to below 600°, the γ/γ' MCrAlY-coating exhibits a non-equilibrium γ/ γ'-microstructure at room temperature. Due to the rapid cooling of the component in the engine the equilibrium phases, which are stable at low temperatures such as the α-Chromium phase, can not re-precipitate. The non-equilibrium microstructure of the coating results in a modified coating conductivity compared to the equilibrium ~~microstructre~~ microstructure according to the standard heat treatment. This variation superposes to the conductivity change due to coating depletion, i.e. the loss of protective elements, which is the important piece of information for determining the expended life of the coating. Therefore the conductivity dependence on coating microstructure makes an NDT coating assessment using the multifrequency eddy current method unreliable for γ/ γ' MCrAlY-coatings.

Please replace the paragraph beginning at page 4, line 15, with the following amended paragraph:

Such coating of serviced gas turbine blading components can ~~consists~~ consist of (wt.-%) 25% Cr, 5.5% Al, 1% Ta, 2.6% Si, 0.5%Y, ~~Rest~~ rest Ni and unavoidable impurities.

Please replace the paragraph beginning at page 5, line 3, with the following amended paragraph:

As an example, FIG. 1 shows an article 1 such as blades or vanes of gas turbine engines, the gas turbine blade comprising a root portion 2, a platform 3 and a blade 4 and cooling holes 5. On the external surface 7 a MCrAlY-coating 6 is applied. The component can be made from a Nickel base superalloy ~~know~~ known in the state of the art, e.g. from the document US-A-5,888,451, US-A-5,759,301 or from US-A-4,643,782, which is known as "CMSX-4".

Please replace the paragraph beginning at page 6, line 14, with the following amended paragraph:

At temperatures above 900°C the α-Cr phase starts to dissolve and with increasing temperature and time the fraction of the α-Cr phase decreases permanently until the α-Cr phase is completely dissolved. The cooling rates during an engine stop are generally ~~to~~ too high for a re-precipitation of the α-Cr phase. This means that the microstructure of a SV20 coating, which was subjected to temperatures higher than 900°C, shows a lower α-Cr phase content compared to its equilibrium condition. The SV20 coating depletes at this temperature mainly from Al as the SV20 coating forms Al-oxides as the protective oxide scale. The degradation level of the SV20 coating above 900°C can be metallographically investigated by measuring the thickness of the γ' free layer. The coating is considered exhausted when an Al content lower than 3 wt % is reached.

Please replace the paragraph beginning at page 6, line 27, with the following amended paragraph:

At elevated temperatures of above 1000°C. a phase transformation according to $\alpha + \gamma' \leftrightarrow \beta + \gamma$ takes place. The α-Cr phase is entirely dissolved and the γ and Al-rich β phase are in an equilibrium condition. During an engine stop the cooling rates are generally ~~to~~ too high for a complete re-transformation to the equilibrium microstructure at RT. Such SV20 coatings, which were subjected to temperatures above 1000°C in service, show a non-equilibrium microstructure at RT consisting of all four phases: $\alpha + \gamma' + \beta + \gamma$.